MASTER OF SCIENCE
IN
MANAGEMENT

INCENTIVES FOR THE SURFACE NAVY IN SUPPORT OF THE U.S. GRAND STRATEGY FOR THE 21ST CENTURY

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There is (or should be) a clear and logical track from National Strategy to naval missions to desirable behavior by naval officers. Furthermore there is (or should be) a coherent structure of incentives to encourage that behavior. Since the Age of Sail, the Surface Navy has recognized the importance of incentives. This thesis focuses on lessons learned from the 19th Century and how those lessons apply today. It examines the U.S. National and Military Strategies for the late 20th Century and early 21st Century, and how the incentive structure for the surface officer community does (or does not) support those polices. The major conclusion is that incentive structures for today's surface officer community generally will support the U.S. strategies.

KEYWORDS: Surface Warfare Officer (SWO), Incentives, 21st Century

THE FIXED-PRICE, VARIABLE OUTCOME CONTRACT TYPE: A LEAP IN REFORM OR LEAP OF FAITH?

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The Under Secretary of Defense for Acquisition, Technology and Logistics commissioned a group to study price-based acquisition in 1998. The Price-based Acquisition (PBA) Study Group reported out in November 1999. One report recommendation was to create and use a new contract type. The report states, "We have concluded that there is a place for a new contracting approach and contract type, Fixed-price, Variable Outcome. This approach is particularly applicable to and will allow many high-risk Science and Technology (S&T), risk reduction, and service contracts to be firm-fixed-price." The focus of this thesis is to analyze the concept behind Fixed Price Variable Outcome (FPVO), compare the FPVO to other existing contracting types, explore the most beneficial applications of the FPVO and finally to make recommendations based upon the data and analysis. The major conclusion is that the FPVO is an inappropriate contract type to use for any acquisition. The FPVO increases risk primarily as a result of placing control of the outcome in the hands of the contractor. The major recommendations are to either abandon the FPVO concept or develop a better vehicle to apportion risk. Two alternatives are suggested.

KEYWORDS: Acquisition Reform, Fixed Price, Variable Outcome, Contracting

ANALYSIS OF THE FINANCIAL ACCOUNTING SITES ON THE WORLD WIDE WEB

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During the last several years the Internet has rapidly evolved. There is a tremendous increase in the amount of information available on the Internet. A growing number of organizations are using the Web to publish financial reports and provide other financial accounting and reporting information. One of the biggest challenges is to find information suitable for specific needs. The objective of this thesis is to analyze information available on the Internet and to determine its suitability for supporting instruction in financial reporting and analysis. This thesis examines more than 200 web sites. They are categorized and evaluated using the criteria of accuracy and reliability, accessibility/cost and currency. The evaluated web sites are included in a web page. This thesis provides the faculty and the students as well as other users of financial accounting data with a gateway via which they can access the best financial accounting, reporting and analysis data available for free on the Internet.

KEYWORDS: Financial Accounting, Internet

FLYING HOUR COST ESTIMATING AT COMNAVAIRPAC

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This thesis examined the Tactical Air (TACAIR) portion of the Commander, Naval Air Forces Pacific (COMNAVAIRPAC) historical flight hour data to determine the correlation between dollars budgeted for the Flying Hour Program (FHP) and the hours actually flown under the program. An analysis of the actual FHP execution of the budget for Fiscal Years (FYs) 1999, 2000 and 2001 was undertaken for four Continental United States (CONUS) based Carrier Air Wings (CVWs).

The COMNAVAIRPAC Comptroller and Flight Hour Program Manager have used flight hours (FH) as a predictor of Fuel, AVDLR and Other Maintenance costs and have sought a more effective cost prediction model for air wings they fund. The intention has been to find a cost estimation method that could be applied to the Inter-Deployment Training Cycle (IDTC) and Fuel, AVDLRs and Other Maintenance costs to better analyze and report projected versus actual flight hour performance.

If such a model exists, COMNAVAIRPAC would have a more powerful tool for accounting and budget analysis, budget projection and execution as well as an ability to improve resource justification. This, in turn, would improve the formulation of the Program Objectives Memorandum (POM) and budget, the execution of the budget and other resource reporting, including reconciliation to the OP-20 report from the Pentagon. Such a model could also be used throughout the Pacific fleet and elsewhere in the Navy.

KEYWORDS: Flying Hour Program, Cost Estimation, Naval Aviation

CHARACTERIZING SAILOR AND COMMAND ENLISTED PLACEMENT AND ASSIGNMENT PREFERENCES

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This paper will report on the results to date in developing a sailor/command database for redesigning the enlisted placement and assignment process. DoN currently matches sailors to billets using a labor-intensive detailing process. With evolving information technology, the assignment process could be accomplished using intelligent agents and web-based markets. This integrated agent/market process was tested using representative sailors and jobs in a "laboratory setting," to examine actual versus predicted matching performance for human detailers, the two-sided matching markets and optimization algorithms. Economics experiments tested quality of fit in assignments made by both human detailers and the two-sided matching algorithm.

Experimental results to date have been promising, but they have used sailors and commands with hypothetical characteristics and preferences. As such, experimental and simulation results may not reflect how assignment algorithms would perform in the Navy's enlisted detailing environment. Meaningful comparisons across detailing approaches must use a realistic database of sailor and command preferences and characteristics.

This research investigates sailor and command preferences for a particular enlisted community, identifying the characteristics of both sailors' preferences over jobs and commands' preferences over sailors. Data concerning both the number and type of characteristics considered important by both sailors and commands represent important design features of any revised assignment process.

KEYWORDS: Manpower Policy, Distribution Process, Job Assignment, Preferences, Detailing

THE ECONOMICS OF THE DRUG WAR: EFFECTIVE FEDERAL POLICY OR MISSED OPPORTUNITY?

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The value of two distinct economic inefficiencies that result from the prohibition of drugs was calculated. These inefficiencies were defined and illustrated as the two direct components of the deadweight loss created by prohibition. The first is under-consumption and the second component, unique to this analysis, is the payment for risk. Using the 1999 illegal quantities and prices, the derived legal prices, and the estimated demand elasticities for four illegal drugs, the estimated quantity demanded for these drugs in legal markets was calculated. The results of these calculations were then used to estimate the total deadweight loss of the drug war in 1999 to be over $90 billion—$65 billion in payment for risk and $24 billion in under-consumption. The analysis was then focused on the indirect components of the deadweight loss, e.g., costs to reduce supply, cost of incarceration, and productivity losses, etc. The conservative estimate for indirect deadweight loss for 1999 was $96.1 billion. In the final chapter, it is estimated that of the total deadweight loss, America could gain $6.7 billion annually in taxes from legal drug sales, save over

$34 billion annually in drug war costs, and recoup the remainder via reductions in prohibition-related phenomena..

KEYWORDS: Drug War, Deadweight Loss, Opportunity Costs, Legalization, Illicit Drugs, Cocaine, Heroin, Marijuana, Methamphetamines, Prohibition

ANALYSIS OF THE ANTIDEFICIENCY ACT IN THE DEPARTMENT OF THE NAVY

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The Department of the Navy budget is expanding from $96.1 billion in 2001 to an expected $108.3 billion in 2003. It is important that in the pursuit of scarce dollars, the people who provide the money trust that DoN will be good stewards of the money. Negative public and Congressional perceptions jeopardize Navy funding. As responsible stewards of taxpayer dollars, DoN must strive to obtain the optimum use of available resources, within the limits of the law. Congress implemented a series of laws designed to prevent government officials from spending the taxpayer's money in a manner that Congress did not intend. Collectively, these laws are referred to as the Antideficiency Act. Execution of the budget contrary to the Antideficiency act is a violation of federal law. Each violation damages the public perception that the Navy is a good steward of the taxpayer's dollar, which could influence the amount and the degree of Congressional control and oversight of future funding. Hence, it is imperative that the Navy provides proper training, implements effective internal controls, and raises the level of awareness of Antideficiency Act violations in an effort to reduce the number of future violations. This thesis analyzes data from 62 Antideficiency Act formal investigations for the period 1987 to 1997. The data was analyzed to detect trends in the number of investigations over time, the most frequent legal statutes violated, the causal factors that led to violations, trends in the investigative process, and the equity and effectiveness of the disciplinary action taken with each violation. Based on the conclusions drawn from the data analysis, recommendations on improving training, internal controls and methods to raise awareness were formulated that should reduce the major causal factors of Antideficiency Act violations.

KEYWORDS: Antideficiency Act

WHAT PRACTICES IN AIRPORT SECURITY SHOULD THE UNITED STATES IMPLEMENT AT COMMERCIAL AIRPORTS IN LIGHT OF THE EVENTS OF SEPTEMBER 11TH, 2001?

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The terrorist attacks of September 11, 2001, changed forever the way America views its everyday safety, as well as the safety of how we travel. The United States government took swift and dramatic action to change civil aviation security with the passing of the Aviation Transportation and Security Act (ATSA) of 2001. In the months following the attacks, politicians and the media made their viewpoints known while civil aviation security professionals have been unheard.

The objective of this thesis is to ascertain the best practices and recommendations of these stakeholders to provide the highest level of security at our nations airports. To gather these data, the researcher conducted on-site interviews of these professionals.

The study reveals civil aviation was not adequately prepared for the terrorist attacks of September 11. Congressional mandates of the ATSA have driven government's behavior. The lack of aviation experience of senior leadership and its top-down approach has alienated stakeholders. Other key government issues include funding constraints, potential complacency and conflicts of interest.

KEYWORDS: Airport Security, Aviation Security Systems, Terrorism, Hijacking, Transportation Security Administration, Aviation Transportation and Security Act of 2002, ATSA, The Gore Commission

CONTINGENCY CONTRACTING AND PRIVATE VOLUNTEER ORGANIZATION PROCUREMENT: A COMPARATIVE ANALYSIS

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This thesis focuses on the similarities and differences between humanitarian organization procurement and contingency contracting. More specifically, it asks whether there are best practices performed by private volunteer organizations (PVOs) that can be applied to contingency contracting during stability operations. To answer this question, this thesis reviews the procurement processes of two PVOs responding to the humanitarian needs in the Republic of Uzbekistan and compares them to the procedures of contingency contracting officers in Uzbekistan supporting *Operation Enduring Freedom.*

Based on the information collected by interviewing members of several PVOs in Uzbekistan, including in-depth interviews with the staff of two PVOs - Heart to Heart and Samaritan's Purse - as well as contingency contracting officers in Uzbekistan, this thesis identifies and discusses three best practices applicable to contingency contracting. These best practices are: 1) develop hands-on, in-depth contingency contracting training methods including scenario-based training, temporary duty assignments at deployed contingency contracting cells for contingency contracting officer trainees, and contracting officer internships with PVOs; 2) empower contingency contracting officers under Executive Order 10789 with full control of all purchases under $50,000; and 3) network with PVOs already operating in country to obtain socio-economic and market data typically unavailable to contingency contracting officers upon initial deployment to a region in crisis.

KEYWORDS: Contingency Contracting, Complex Contingency Operations, PDD 56, NGO, Non-Governmental Organization, PVO, Private Volunteer Organization, Civil-Military Operations, Stability Operations, Humanitarian Operations, Humanitarian Organization, Humanitarian Assistance, Uzbekistan, MOOTW.

COST ANALYSIS OF MAINTENANCE PROGRAMS FOR PRE-POSITIONED RESERVE MATERIAL STOCK (PWRMS)

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This study analyzes the existing program for the maintenance of CESE (Civil Engineer Support Equipment) and CEEI (Civil Engineer End Items) that are stored as part of the Pre-positioned War Reserve Material Stock (PWRMS) and attempts to predict the required funding levels of Operations and Maintenance, Navy funding (OMN) for that maintenance. The objective is to provide DOD, the Navy, and the Civil Engineer Corps a guideline and possible benchmark for maintenance costs required to maintain the CESE War Reserves in a C1 condition of readiness

This research is important since the Naval Facilities Engineering Command (Seabee Readiness and Logistics, SRL) and Code N44, CBC Port Hueneme CESE Management Branch, need to determine the amount of funding required in order to adequately maintain CESE PWRMS in a Ready-For-Issue (RFI) condition. PWRMS is considered mission essential, but the Project Managers' ability to rapidly respond to a contingency and meet the scheduled mobilization dates are predicated on the ability to get the PWRMS out of storage, mobilized, and transported to the contingency. Therefore, this thesis has direct operational readiness implications.

The OMN funding required to maintain CESE PWRMS in a RFI condition was estimated using assumptions for cost of materials, estimates for labor expenditures, and frequency of use of equipment. Recommendations include modifications to the current program's objectives and improvements to issues noted in this study. Areas of further study are provided for improved budgetary decisions.

KEYWORDS: Cost Analysis, CESE, Civil Engineer Support Equipment, PWRMS, Pre-positioned War Reserve Material Stock, War Reserves, NCF, Naval Construction Force, CEEI, Civil Engineer End Items, Naval Facilities Engineering Command, NAVFAC, Civil Engineer Corps, CEC, Naval Mobile Construction Battalion, NMCB

ANALYSIS OF THE MARINE CORPS ENLISTED ASSIGNMENT PROCESS

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The mission of the Manpower Management Enlisted Assignment (MMEA) Branch is to enact "Marine Corps policy to classify, assign, and counsel all active duty enlisted Marines to effectively staff the active duty enlisted requirements of all worldwide Marine Corps Activities, by retaining only the most qualified Marines. Special attention is given to balance the needs of the individual Marine with the needs of the Marine Corps." However, balancing the Corps' needs and individual Marines' needs is particularly difficult given the current hierarchical planning method that MMEA is using to match Marines with billets. The current top-down assignment system consisting of centralized and labor-intensive processes leaves many Marines, monitors and commands dissatisfied and frustrated.

Ultimately, MMEA accomplishes its mission: assigning Marines to billets; however, it may do so without optimizing efficiency or effectiveness. The assignment process could possibly be made more efficient using web-based markets and intelligent agents to more effectively plan and assign Marines to billets. Additionally, a thorough understanding of the Marine Corps Human Resource Development Process (HRDP) provides crucial insights ensuring the Marine Corps focuses on improving operational readiness, maintaining fleet balance, and retaining quality Marines. This thesis evaluates the strengths and weaknesses of the current Marine Corps' assignment process and its outcomes, and makes recommendations for improvement.

KEYWORDS: Marine Corps, Assignment, Manpower, Detailing, Retention, Quality of Life

THE RELEVANCE OF RETENTION BEHAVIOR IN THE DEVELOPMENT OF ACCESSION STRATEGY

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This thesis develops officer retention ratios that are useful in understanding the retention behavioral trends of accession sources over time. Data files from the Defense Manpower Data Center on Supply Corp officer accessions in 1985 to 1995 are used in the analysis. The study focuses on officers that resign voluntarily after completion of the minimum service requirement and before reaching the ninth year of active service. The findings reveal that each accession source has unique accession to retention ratios. A comparison of the retention ratios to accession trends reveals that retention rates can be improved through an understanding of retention behavior. Recommendations are made for the Navy to develop cost-effectiveness metrics that are based on retention behavior. Integration of these metrics into planning and analysis models will facilitate the cost evaluation of proposed accession policies.

KEYWORDS: Supply Corps, Retention, Accessions

BUSINESS ETHICS

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The Polish public procurement and the Polish Ministry of Defense (MOD) acquisitions programs have been subject to violations and abuses since the public procurement system was introduced in Poland in 1995. The purpose of this thesis is to examine the current ethical environment of the MOD procurement programs along with the laws and policies governing them, to determine if the MOD procurement organization should develop and implement any ethical program. In addition, this thesis also recommends what elements this program should include.

KEYWORDS: Acquisition, Ethics

OPERATIONAL SCENARIOS FOR THE INITIAL OPERATIONAL TEST AND EVALUATION OF THE RAH-66 HELICOPTER

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The United States Army is undergoing force structure and doctrinal changes to meet the evolving threats facing the nation. To fulfill operational requirements brought about by these changes, Army aviation is developing the RAH-66 Comanche. As a precursor to the Comanche being fielded in operational units, the aircraft must perform to standard during its Initial Operational Test and Evaluation (IOTE). The Army must fashion the IOTE to ensure the Comanche meets the requirements of the future force. To do this, test scenarios must focus on placing the aircraft in environments and situations in which it will be expected to operate. Test scenarios must be kept technically and tactically sound to provide accurate and realistic information. This thesis identifies scenarios that encapsulate future requirements brought about by the Army's migration to the Objective Force. The scenarios have been developed to test and evaluate operational effectiveness measures of performance. The scenarios reflect the early stages of the Future Combat System (FCS) due to Comanche being the first system tested. As doctrine and the systems that comprise FCS continue to evolve, it is recommended to ensure the scenarios remain updated to reflect the most current information and equipment. Recommendations also include methods to alleviate resource constraints.

KEYWORDS: Initial Operational Test and Evaluation (IOTE), Comanche Helicopter, Army Objective Force, Future Combat System (FCS)

AN ANALYSIS OF POLITICAL AND ECONOMIC FACTORS THAT IMPACT SUSTAINMENT OF THE JAPANESE DEFENSE INDUSTRY

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The Japan Defense Agency (JDA) is under pressure to reduce its procurement costs. As a result, the Japanese Defense Industry (JDIB) receives fewer orders from the JDA. The customer for the JDIB is, in essence, limited to the JDA due to the country's unique circumstances. The Japanese government has tried to help the JDIB in various ways. The Japanese government has created demand for the JDIB through high procurement costs, and the JDIB has maintained defense divisions and improved its technological expertise. The research goal is to identify some key political and economic factors to allow the JDIB to continue. This thesis describes the characteristics of the JDIB and the current circumstances surrounding the JDIB, and evaluates factors that influence continued development and sustainment of the JDIB. Subsequently, this thesis concludes with recommendation that would enable the JDIB to continue in a new environment.

KEYWORDS: Japanese Defense Industry, Three Principles on Arms Export, Kokusanka

A DEPARTMENT OF DEFENSE RETIREMENT SYSTEM FOR THE FUTURE

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The current military retirement system has come under much scrutiny in recent years. Much of this scrutiny has been a result of the high cost of the system. Many studies have been undertaken in attempts to develop a retirement system for military personnel that would reduce the cost. Congress has acted several times in recent decades on these proposals. In all but one instance, the result has been lowering system costs by reducing retiree benefits. The goal of this study was to examine the objectives of the military retirement system for the purpose of determining if a retirement system could be developed that would lower system costs while simultaneously meeting the objectives of the current system and maintaining the retirees perceived retirement entitlements at their current level. The result of the study is a proposed multi-option retirement system for the military that is better aligned with the DoD retirement system objectives and reduces the system cost while simultaneously enhancing future retiree entitlement potential. The model costs and benefits are analyzed using a Monte Carlo type simulation model to more accurately predict future results and allow for analysis of various modifications to the proposal

KEYWORDS: Military Retirement, Monte Carlo Simulation, Alternative Retirement System, DoD Retirement System Objectives, Retirement System Costs, Retirement System Benefits

HISTORY OF THE VOLUNTARY INTERMODAL SEALIFT AGREEMENT (VISA)

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The Voluntary Intermodal Sealift Agreement is a program designed through a cooperative effort between the Department of Defense, government agencies and private industry. Its purpose is to provide sealift and intermodal capabilities to DoD in times of conflict when there are insufficient organic and commercial

ships available. Development of the program took over seven years to complete because of the historical factors influencing members participating in the program's design, and because of the changing structure of the global economy.

The changing global environment has shifted America's focus from "two nearly simultaneous major regional conflicts" to numerous smaller conflicts in various regions. Additionally, there were many changes in the way DoD operated while scaling back at the end of the Cold War. All of these changes were highlighted during the development of the program, influencing its final design. This thesis examines the historical factors influencing the development of VISA, the current design and organization of the program, the original intent of the agreement and whether it meets that intent, the incorporation of technology and VISA's role moving military material in the future.

KEYWORDS: Sealift, Marine Transportation

COMPARATIVE ANALYSIS OF INTERMEDIATE LEVEL MAINTENANCE REPAIR PROCESS

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The study investigated the impact of Consolidated Automated Support System on the intermediate level of naval aviation maintenance repair process. Repair process analysis can be used as a management tool in measuring process capability and determining how well process outputs are meeting the external customer requirements. This comparative study of the pre-CASS and post-CASS mean time between failure and mean time to repair process output data results showed significant process improvements. The use of this methodology can be incorporated at all level of maintenance. This approach can result in wide scale changes in repair process analysis, as well as, impact future acquisition and weapon system support decisions. Recommendations for changes in Aviation Maintenance Management repair process and data collection methods are included along with suggestions for further research.

KEYWORDS: Aviation Maintenance, AN/APG-65 Radar System, Consolidated Automated Support System (CASS), Intermediate Maintenance Repair Process

HORIZONTAL TECHNOLOGY INTEGRATION OF MODE V TECHNOLOGY WITHIN THE JOINT AIR-TO-GROUND ENVIRONMENT

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The need to know where you are and where the enemy is in relation to your position has been a fundamental necessity to success in battle. This issue of combat identification has received increasing attention, particularly following Operation Desert Storm. Combat identification can have a critical impact on the battlefield, is critical for Joint warfighting, and will become an increasing priority as weapon systems become more sophisticated and standoff distances increases. This thesis evaluates the nature of the combat identification environment and proposed solutions for the Joint (Multi-Service) environment with special emphasis on the air-to-ground mission. One of the proposed systems identified in previous studies addressing the air-to-ground mission is the legacy Identify Friend or Foe component of an aircraft transponder. However, the Navy has been identified as the lead proponent for a replacement to this system. This thesis explores the results of the previous studies and the use of the Navy's newer technology when compared to the previously established criteria for the legacy system in the air-to-ground environment.

KEYWORDS: Combat Identification, Fratricide, Horizontal Technology Integration, Identify Friend or Foe, IFF

OPEN-SOURCE INTELLIGENCE IN THE CZECH MILITARY: KNOWLEDGE SYSTEM AND PROCESS DESIGN

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Owing to the recent transitions in the Czech Republic, the Czech military must satisfy a large set of new requirements. One way the military intelligence can become more effective and can conserve resources is by increasing the efficiency of open-source intelligence (OSINT), which plays an important part in intelligence gathering in the age of information. When using OSINT effectively, the military intelligence can elevate its responsiveness to different types of crises and can also properly allocate its limited resources into areas, in which covert collection is unavoidable.

This thesis combines modern knowledge-management theory with current issues in military intelligence, creating a base for designing a future OSINT system in the Czech military. First, the thesis introduces recent U.S. research in knowledge management and examines the current intelligence issues. Then the thesis examines the Czech military intelligence environment in the framework of the national security and defense policy and also analyzes the actual use of OSINT in the Military Intelligence Service, following the four stages of the knowledge system and process design. Finally, the thesis outlines the main aspects of the future OSINT knowledge-management system and recommends further research and development.

KEYWORDS: Data, Information, Knowledge, Intelligence, Open Sources, Open Source Intelligence, OSINT, Management, Knowledge Management, Knowledge System and Process Design, Virtual Organizations, Military, Czech Military, Czech Republic

SOCIAL FACTORS IMPACTING RECRUITMENT AND RETENTION OF THE CIVILIAN ACQUISITION WORKFORCE

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This thesis looks at the recruitment and retention challenge facing the DoD's civilian acquisition workforce in light of the demographic gap caused by years of downsizing. It provides a qualitative assessment of the adequacy of existing recruitment and retention tools in light of the generational differences between current policymakers (Baby Boomers) and needed younger employees (Generation-X). Key generational characteristics are compared and assessed in relation to workforce recruitment and retention tools. The research indicates that although a generation gap exists it is not so large that bridges cannot be built. Personnel tools can be modified or created to enable culture change so that Generation-X values are embraced in the workplace. Of the existing tools, flextime; lateral movement and education opportunities; and the demo project appear most promising since they offer individual flexibility and empowerment. Among other things, this thesis recommends to increase internships; advertise career broadening and lateral movement opportunities; and centralize all job opportunities to a single site open to all interested applicants. These adjustments will help the DoD address its recruitment and retention goals.

KEYWORDS: Recruitment, Retention, Civilian, Acquisition Workforce, Generation-X, Baby Boomer, Demographic

THE RELIABILITY MANDATE: OPTIMIZING THE USE OF HIGHLY RELIABLE PARTS, MATERIALS, AND PROCESSES (PM&P) TO MAXIMIZE SYSTEM COMPONENT RELIABILITY IN THE LIFE CYCLE

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Demonstration of required reliability performance levels prior to system fielding has remained a challenge for the Army, and in recent years, the success rate of systems achieving their stated reliability performance in operational tests has declined. Realization of required reliability performance necessitates effective management strategies and techniques in order to reduce risks. "Designing-in" reliability up front is one of the critical elements to insure adequate system level reliability. It has also been ranked as one the top reliability problems by Program Managers. One design technique for maximizing inherent reliability is through the use of highly reliable parts, materials, and processes. Reliable parts, materials, and process are the building blocks of the total system reliability. They also have a significant role in overall weapon system success because of the contribution to cost, schedule and performance goals. This research concentrates on the impacts of highly reliable parts and materials on the overall reliability of a weapon system. To gather these data, the researcher drew directly from experiences of part, material, and process professionals from the Army, Navy, Air Force, and contractors with whom they interface. Results show that the key to success resides in early involvement of part, material, and process experts along with a process that facilitates communication and open dialogue. Maximizing inherent reliability is the desired end state.

KEYWORDS: Reliability, Weapon System, Parts, Materials

AN ANALYSIS OF COMMON MISSILE AND TOW 2B USING THE JANUS COMBAT SIMULATION

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The U.S. Army is currently developing a new close combat missile system, Common Missile, to replace the aging Tube-launched, Optically-tracked, Wire-guided (TOW 2B) and HELLFIRE missile systems. The Common Missile will have a greater range and improved target acquisition capability over the current missile systems. The purpose of this thesis is to compare the performance of the Common Missile and the TOW 2B missile in a simulated ground battle situation in three varying terrain conditions. This thesis used the Janus high resolution combat model to simulate the missile systems in a Desert, European and Mediterranean environment. Each of the scenarios used a force-on-force battle to measure effectiveness. Data was gathered from the Janus created postprocessor files of the three scenarios. The analysis compared three measures of effectiveness (MOEs) in the areas of lethality, survivability and engagement range. The goal of the analysis was to determine performance differences between the missile systems by comparing the mean of the simulation results.

KEYWORDS: Modeling and Simulation, Janus

AN ASSESSSMENT OF THE MARINE CORPS INTEGRATED LOGISTICS CAPABILITY INITIATIVE REPAIR CYCLE TIME REDUCTION

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In this thesis, Marine Corps' Integrated Logistics Capability (ILC) initiatives are examined to reduce Repair Cycle Time (RCT) for ground equipment from 53 days to 34 days by fiscal year 2006 (a 35 percent reduction). Based on Little's Law, the Marine Corps could save a substantial amount of money on inventory and improve operational availability of its weapon systems by reducing RCT. ARENA simulation software was used to construct a baseline model of the current maintenance process. Modifications were then made to the baseline model to test the Marine Corps' prediction that the proposed ILC initiatives of maintenance consolidation will result in a 35 percent RCT reduction. The final simulation model focused on future changes that will reduce RCT by 50 percent. Based upon the consolidation of maintenance echelons, it was found that the Marine Corps is only able to reduce RCT by 32.5 percent. A 10 percent reduction in retail Order Ship Time (OST) and other maintenance processes will allow the Marine Corps to meet the RCT goal of 35 percent reduction. The reduction of additional maintenance processes coupled with variance reduction of retail OST can reduce RCT by 50 percent.

KEYWORDS: Marine Corps Logistics, Integrated Logistics Capability, Repair Cycle Time Reduction, Simulation Modeling

HAZARDOUS MATERIAL TRANSPORTATION POLICY AND THE THREAT OF TERRORIST ATTACK

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This thesis analyzes the framework criteria constructed from policies followed by manufacturers, suppliers, and Department of Defense (DoD) on the transportation of hazardous material. Field interviews were conducted with base civilian and military personnel involved in the support of hazardous material operations.

Overall policies on transportation of hazardous material do provide adequate security for naval bases but some inefficiency does exist. There is a lack of designated hazardous material transportation routes on base; hazardous material instructions lacks specifics on transporting hazardous material before it becomes waste; and gate security lacks procedures or systems for to check incoming carriers licenses for authorization to transport hazardous material.

Recommendations include the establishment of hazardous material routes; incorporate specifics on transporting incoming hazardous material; establish communications with law enforcement systems to check carrier's licenses for authorization to transport hazardous material; and base security plans should incorporate exercises and training plans pertaining to possible terrorists attacks with hazardous material.

KEYWORDS: Transportation of Hazardous Material, Hazardous Material Regulations, and Terrorists Attacks with Hazardous Material

BRACKET CREEP AND DEADWEIGHT LOSS FROM CALIFORNIA'S STATE INCOME TAX, 1958-1977

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This thesis shows that a combination of "bracket creep" and legislated tax rate increases during the Edmund G. "Pat" Brown and Ronald Reagan governorships caused individual marginal tax rates to increase as much as 600 percent. A person earning $20,000 in 1958 was in the three percent bracket for state income taxes. Assuming this person received no real pay raises, his inflation-adjusted income in 1977 was now $41,938 and his marginal tax bracket was 11 percent. This person experienced a 355 percent increase in his marginal tax rate.

The deadweight loss calculations show how bracket creep and legislated tax rate increases exacerbate deadweight loss. The more revenue the federal or state government tries to collect, the more deadweight loss society as a whole incurs. Using elasticities (of taxable income with respect to tax rates) ranging from .3 to 1.0, the incremental deadweight loss as a percent of incremental revenue collected ranged from 10.6 percent for an elasticity of .3, to as high as 35.53 percent for an elasticity of 1.0. The deadweight loss calculations show that for every dollar in revenue collected, at least 10.7 cents to as much as 35.5 cents per dollar is lost to deadweight loss.

KEYWORDS: Bracket Creep, Deadweight Loss

THE KOSOVO CONFLICT: EMERGING RELATIONSHIPS AND IMPLICATIONS FOR GREECE

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This thesis examines the 1999 Kosovo conflict and subsequent NATO military intervention including implications for Greece. Additional areas of study include: a historical and social background of the Balkans; a revival of nationalist pursuits; and emerging regional stakeholder relationships.

The methodology included literature review, stakeholder analysis, and results of a researcher-developed questionnaire administered to 35 Greek officers. Survey results ($p <= .05$) indicated that the Kosovo conflict likely: disturbed many Greek citizens; increased refugee migration into Greece; raised cross-border crime; increased environmental contamination; and may not have improved overall combat readiness of Greek armed forces.

Additional conclusions indicated the following: post-Cold War international focus has shifted to a European perimeter, Balkan domain; threatening regional issues remain; and Greece's strategic role is expanding as a geographic and political peace-maker. Unofficial recommendations include: integrate Slovenia, Romania, Bulgaria, Albania, and Former Yugoslav Republic of Macedonia (FYROM) into the EU to facilitate a common Balkan and European approach to long-term regional peace and prosperity; and strengthen international rules on environmental protection in cases of military action.

KEYWORDS: Kosovo, UN, EU, NATO, Stakeholder analysis, Greece's Foreign Policy for Security

NATO INFLUENCE ON ROMANIAN NATIONAL SECURITY IN THE POST COLD WAR ERA

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The transformation of the political relations in Europe at the dawn of the 21st century resulted in deep changes in the concepts of security and collective defense.In the context of NATO becoming an organization dedicated to freedom and democratic values, Romania reconsidered its political and strategic position, started profound reforms in its security institutions and continues to consolidate the democratic statecraft.

This thesis examines the influence of NATO mechanisms on Romanian National Security in the Post Cold War Era. The analysis is primarily concerned with examining the building blocks and mechanisms by which NATO extends its institutional and normative influence and contributes or not to reducing chances for military conflict and political tension in the Central and Eastern Europe (CEE) countries, by integrating them into the Western security community, and increasing the speed of democratic domestic reforms.

The analysis concludes that through NATO influence, Romania has developed into a major factor of peace and stability in the area and could become an important military contributor to NATO.

KEYWORDS: Romania, NATO, Romanian-Hungarian Relations, Restructuring Romanian Armed Forces

TRANSACTION COST ECONOMICS AND A-76: A FRAMEWORK FOR DEFENSE MANAGERS

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With competing demands on DoD's limited budget, outsourcing, within the OMB Circular A-76 framework, has been the vehicle of choice to attempt to achieve cost savings. However, the bureaucratic process is not always compatible with realization of long-term savings. While corporate America has experienced real savings through outsourcing, DoD's experience has not been as successful.

This thesis offers a new framework for analyzing DoD outsourcing using the principles of Transaction Cost Economics (TCE). The key tenets of TCE (asset specificity, complexity and frequency) are defined and their usefulness demonstrated as evaluation criteria in the outsourcing process. Additionally, the concept of opportunistic behavior in outsourcing arrangements will be analyzed. By using these concepts, within the A-76 process, stakeholders would have a method that could help avoid bad outsourcing decisions and achieve significant cost savings on a more consistent basis through more appropriate contract types.

KEYWORDS: Outsourcing, A-76, Transaction Cost Economics (TCE)

A COMPARISON OF PAST PERFORMANCE PRACTICES WITHIN THE DEPARTMENT OF THE NAVY AND COMMERCIAL INDUSTRY

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Since the passage of the Federal Acquisition Streamlining Act of 1994, all Federal Departments and Agencies have initiated procedures to use past contractor performance information in source selections and

to record contractor performance on in-process contracts. Past performance information is intended to aid the government in determining "best value" contractors and to provide a monitoring process that encourages contractors to perform at their best.

This thesis investigates the use of past performance information in the Federal acquisition process by looking at the Navy's mandatory requirements for gathering past performance information and reviewing the current policies and practices for the collection and use of past performance information within two Department of the Navy buying commands. It then reviews the current practices of collection and use of past performance information within four firms in commercial industry, identifying any similar standards or guidance. The practices of the two "buying commands" are compared with the practices of the four commercial firms.

Key findings of this study are: 1) Government commands find it difficult to complete all past performance information requirements as regulated; 2) no set standards or prescribed guidance exist for commercial firms' collection of past performance information; 3) commercial firms employ practices that streamline the gathering and use of past performance information; 4) the Department of Navy could improve their use of past performance information by incorporating some of the commercial practices into their acquisition and contracting process.

KEYWORDS: Acquisition, Commercial Industry, Contracting, Department of the Navy, Past Performance

SUITABILITY OF INTRODUCING COMMERCIAL ITEMS INTO INTELLIGENCE SYSTEMS

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In recent years there have been several movements afloat to trim the level of bureaucracy involved in purchases of goods. The result is that commercial items have found their way into the military everywhere from the office place to the front lines of combat. Although this may be suitable for non-sensitive or non-mission critical systems, the introduction of commercial items into sensitive intelligence systems raises several areas of concern. The objective of this thesis is to determine the degree of suitability of introducing commercial products into intelligence collection and processing systems.

KEYWORDS: COTS Items, COTS, Commercial-Off-The-Shelf, Commercial-Off-The-Shelf Items, Commercial Items, Commercial Products, Security, Intelligence Programs, Intelligence Products, Intelligence Systems, Intelligence System Security, Program Security, Design Security, Product Security

REGRESSION ANALYSIS AS A COST ESTIMATION MODEL FOR UNEXPLODED ORDNANCE CLEANUP AT FORMER MILITARY INSTALLATIONS

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Throughout the 1990s, the Department of Defense has undergone numerous changes in an effort to save money and bring the military infrastructure in line with the National Security Strategy. One of the major ways of reducing military infrastructure has been through the Base Realignment and Closure program. Before an installation can be formally turned over to the local community, the military service owning the base has to certify that the land is environmentally safe for reuse. One of the greatest problems discovered on former weapons training installations is the numerous pieces of Unexploded Ordnance that were located either on the surface or just below the surface in soil that will be reworked for land development projects by

local city developers. This thesis provides a comprehensive case study of the former Fort Ord installation as the Army goes through the process of cleaning up Unexploded Ordnance so that the property can be given to the city of Seaside, California, and other civilian entities. A mathematical model is developed to better estimate cleanup costs using historical cost data that could be used by the Defense Department prior to placing installations on any future closure lists.

KEYWORDS: Cost Estimating, Environmental Cleanup, Base Realignment and Closure, Regression Analysis, Unexploded Ordnance

IMPACT OF THE INTEGRATED MAINTENANCE CONCEPT ON EA-6B READINESS AND MAINTENANCE SUPPORT AT NAS WHIDBEY ISLAND, WA AND NADEP JACKSONVILLE, FL

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Faced with an aging Navy air force, the EA-6B, a piece of the aging aircraft inventory puzzle, is included in a mandated program called Integrated Maintenance Concept (IMC). IMC incorporates a maintenance process called Reliability Centered Maintenance (RCM) to establish and adjust preventative maintenance requirements. The premise of the program is to justify each preventative maintenance action to maintain obsolescent airframes while reducing aircraft out-of-service-time and operating support costs. The implementation of a preventative maintenance program validated by RCM coupled with the fixed period end date (PED) will, in theory, reduce total ownership costs (TOC) to include reduced depot level turn around and scheduled maintenance time.

The objective of this thesis is to ascertain how the move from SDLM to IMC is impacting the community from all perspectives and their views on readiness and supportability. To gather data, the researcher conducted on-site interviews with key players at all levels of maintenance support. IMC, with the incorporation of RCM, justified preventative maintenance actions can positively impact the life of the aircraft. However, to make it possible, the depot field site has to be fully supported and the organizational and intermediate levels manned at appropriate levels and training in structures repair, priority.

KEYWORDS: EA-6B, Depot Maintenance, Intermediate Maintenance, Organizational Maintenance, In Service Repair (ISR), Aircraft Service Period Adjustment (ASPA), Integrated Maintenance Concept (IMC)

STOCK IN-TRANSIT: WHY WE HAVE IT, WHY IT MATTERS

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Stock in-Transit, specifically Stock in-Transit that goes to a Non-TIRing activity remains a major problem within the Navy. The Navy continues to "write-off" billions of dollars due to stock in-transit losses each year and consistently loses track of valuable repair items. This thesis looks at the effects that Stock in-Transit has on the Navy, in not only the repair pipeline, but overall readiness as well. Currently, two programs are in place that could solve this non-TIRing problem, Commercial Asset Visibility (CAV) and a Proxy TIR Group. This thesis looks at the cost associated of implementing one or both of the two solutions and the benefits they would bring.

KEYWORDS: Stock in-Transit, SIT, Loss of Visibility, DLR Pipeline

TURKISH AIR FORCE'S EXPERIENCES IN CHEMICAL MATERIAL ACQUISITION

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The purpose of this thesis is to examine the Turkish Air Force's experiences with the acquisition of chemical materials. It highlights the issues, concerns and risk areas associated with the chemical material acquisition and examines how the Turkish Air Force tries to mitigate the associated risks. In addition, it analyzes the chemical material acquisition from business perspective.

Due to operating in different environments, the Turkish Air Force and the private sector have different objectives in the acquisition of chemical materials. Turkish Air Force operates with excess amount of chemical materials in the inventory to prevent material outages. This attitude leads to shelf life expirations and testing processes in chemical materials. Conversely, business perceives inventories as costs and endeavors to reduce them to the maximum extent possible.

The conclusion is that Turkish Air Force is operating at a reasonable effectiveness level while fulfilling its chemical material needs. However, given the long procurement lead times and high rate of shelf life extension tests, the Turkish Air Force performs at a low efficiency level. Business practices employed in the acquisition of chemical materials offer viable alternatives to improve current acquisition methods.

KEYWORDS: Turkish Air Force, Chemical Material, Acquisition, Shelf Life

THE PEARL HARBOR FLEET MAINTENANCE PILOT PROGRAM: CONVERSION FROM THE NAVY WORKING CAPITAL FUND TO APPROPRIATED FUNDING

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During fiscal year 1999, the Navy conducted the Pearl Harbor Fleet Maintenance Pilot program, converting the Pearl Harbor Naval Shipyard from a revolving fund activity to merge with the Naval Intermediate Maintenance Facility and consolidate under appropriated funding. This research will relate the complexities of change during the Pearl Harbor Pilot, specifically with regard to the two distinct types of funding methods used at the Depot and Intermediate Maintenance Facilities: revolving funds (Navy Working Capital Fund) and appropriated funds (mission funds), respectively. The primary research goal is to define the advantages and disadvantages of accounting for the consolidated operations at the Pearl Harbor Shipyard and Intermediate Maintenance Facility with appropriated funding. To provide an analysis of this topic, results of the Pearl Harbor Pilot performance metrics will be studied and the two types of funding will be compared and contrasted. Results of the Pilot program are mixed and are still open to debate two years after the conclusion of the test. Implications for the Marine Corps Maintenance Depots are paralleled to the current dilemma facing the Navy on whether to continue the success of the Pilot or to reorganize again under a revolving fund system.

KEYWORDS: Working Capital Funds, Appropriated Funds, Regional Maintenance, Depot Maintenance, Intermediate Maintenance, Consolidation

BINDING ARBITRATION AND THE SUMMARY TRIAL WITH BINDING DECISION: A COMPARISON OF THE TWO METHODS IN RESOLVING DISPUTES

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Alternative Dispute Resolution (ADR) encompasses a broad range of binding and non-binding techniques to resolve controversies without litigation. Congressional Legislation and Executive orders since 1990 have emphasized the need to use ADR. The intent was to stop the rapid growth of claims against the Government and to authorize and encourage agencies to seek methods other than litigation in order to promote prompt settlement of claims. Using ADR can potentially save a great deal of time and money by providing more options to resolve disputes. It allows us to become more similar to the civilian community, enhances our relationship with business and promotes competition. The objective of this research is to determine if binding arbitration should be a viable means of resolving conflict within the Department of Defense (DoD). The thesis provides a legislative background of ADR, and briefly discusses various techniques of the ADR process. Binding arbitration is compared to the Summary Trial With Binding Decision, a form of ADR available at the Armed Services Board of Contract Appeals (ASBCA). The advantages, disadvantages and differences are then analyzed. This study concludes that DoD should take advantage of the benefits that binding arbitration offers.

KEYWORDS: Alternative Dispute Resolution, ADR, Arbitration, Summary Trial With Binding Decision, Defense Industry, Disputes, Advance Agreements

APPLICATION OF THE JANUS COMBAT MODEL FOR ANALYSIS OF ALTERNATIVES: A STUDY OF THE OPERATIONAL EFFECTIVENESS OF THE COMMON MISSILE AS COMPARED TO THE HELLFIRE

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This research employs the Janus Combat Model in a Simulation Based Acquisition (SBA) approach to an Analysis of Alternatives (AOA) in an effort to find a single missile solution to replace the Army's legacy tactical missiles. Janus will be utilized to analyze the military worth of a newly proposed missile named the Common Missile (CM) as compared to its primary aviation employed alternative the Hellfire Missile (HF). This analysis utilizes an Army Aviation Deep Attack scenario developed within the Janus Combat Model. The objective of this research is to investigate which missile is the best operational alternative for Army Aviation and to determine to what extent it is better.

KEYWORDS: Analysis of Alternatives, Janus, Modeling and Simulation, Simulation Based Acquisitions, Army Attack Aviation, Longbow Apache, Common Missile, Hellfire Missile

DoD RESOURCE IMPACT ON SINGLE SCOPE BACKGROUND INVESTIGATION-PERIODIC REINVESTIGATION INITIATIVES

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The resource impact of implementing selected changes to the Personnel Security Investigation (PSI) process was studied. The Phased Periodic Reinvestigation (Phased PR) and the Automated Continuing Evaluation System (ACES) initiatives were compared in terms of costs, schedule and performance with the current PSI process. Estimated impact costs of the ACES process were determined using estimates from adjudicated cases and applying relevant investigative and adjudicative process costs to the ACES product. The study found that ACES offers potential significant improvements in the performance of the PSI process by identifying issue-relevant cases earlier than the current PSI process. ACES coupled with the Phased PR process could increase the number of issue-cases identified without additional resources. The result would be a PSI process that has a significant increase in performance without any additional cost to the system.

KEYWORDS: Single Scope Background Investigation-Periodic Reinvestigation, SSBI-PR, Top Secret Periodic Reinvestigation, TSPR, Automated Continuing Evaluation System, ACES

ISSUES AND CONCERNS IN INTERNATIONAL CO-DEVELOPMENT EFFORTS

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After the collapse of the Iron Curtain, all nations tried to adapt to the new environment. They could either develop and produce their own weapons systems as before and bear all the associated burden, or they could co-operate in various phases of the project, sharing expenses, expertise, technology while creating a market even before the first prototype is built. This thesis addresses the issues and concerns which emerged in projects realized and on going; MEADS (Medium Extended Air Defense System), JSF (Joint Strike Fighter), Eurofighter and FLA (Future Large Aircraft). It will be considered whether entering cooperative projects is a useful approach, and if it can be implemented as a solution for Armed Forces modernization. In general this thesis will consider lessons learned from the example projects and apply those lessons to understanding the future environment for international defense cooperation.

KEYWORDS: Future Large Aircraft (FLA), Eurofighter, Medium Extended Air Defense System, MEADS) Joint Strike Fighter (JSF), Co-Development

COST-BENEFIT STUDY OF IMPLEMENTING CURRENT AND FUTURE TECHNOLOGY FOR ENHANCED STATION-KEEPING DURING UNDERWAY REPLENISHMENT OPERATIONS

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This thesis analyzes the feasibility of using new technology such as laser rangefinders to enhance ship station-keeping during Underway Replenishment (UNREP) Operations. The introduction of new technology is the single best method to reduce manpower requirements on board Navy vessels today. UNREP at sea is the most manning intensive evolution required by the Navy for Commanders and sailors to execute. This research explores new methods to communicate and determine approach and alongside

ranges between ships at sea. Research was conducted on five classes of combatants using laser rangefinders. Laser rangefinders were found to be the only mature, suitable technology to replace the Phone and Distance line legacy system. An analysis of alternatives based upon cost estimates and observed benefits revealed that using lasers could provide enhanced situational awareness to ship Commanders, Officers of the Deck and Conning officers. A modest investment in laser rangefinders for each ship in conjunction with billboard range displays on replenishment ships and reconfigured sound powered phone lines would cost effectively simplify Underway Replenishment evolutions by reducing time alongside, increasing safety to personnel and vessels at sea, and sailors Quality of Life.

KEYWORDS: United States Navy, Underway Replenishment, UNREP, Safety, Collisions, Laser, Rangefinder, Cost-benefit, Logistics, Manpower, Manning, Evolutions, Transformation, QOL, Technology

AN ANALYSIS OF FOREIGN MILITARY SALES LOGISTICAL SUPPORT

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This research describes how Foreign Military Sales aviation logistical support will be provided for in the future based on changes currently taking place in the Department of Defense, Department of the Navy, Department of the Air Force, and private industry. Information on the current system was gathered through a thorough review of literature. Outsourcing and privatization efforts by the Department of Defense, especially in depot privatization, will affect the way that aviation logistical support is provided in the future. With a decade long reduction in American defense spending, private industry is increasing the emphasis on providing aviation logistical support through contractual agreements as another method of creating revenue and maintaining production lines. Third party companies have emerged as an important entity in the logistical support field, providing specialized support to the Department of the Navy, Department of the Air Force, private industry, and foreign customers. The Department of the Navy, Department of the Air Force and private industry each has their own advantages and disadvantages in providing aviation logistical support. The findings conclude that aviation logistical support will be increasingly provided through Department of Defense outsourcing programs, and that private industry is seeking to increase its participation in this area of logistical support.

KEYWORDS: Foreign Military Sales, Logistics, Outsourcing

PROFESSIONAL ARMED FORCES NEW TREND IN EUROPE: TRANSFORMATION OF THE CZECH ARMED FORCES

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In 2001 the Czech Republic decided to abandon conscription and create professional armed forces. It is in time when the Western European countries are following the trend created by new conditions requiring quickly deployable, highly skilled and well-equipped forces. Reforms started with forces of Belgium and Netherlands and now followed by powers of France, Spain, Italy and Portugal. Countries are using experience of forces from United States and United Kingdom. In case of Czech Republic it is the natural continuation of process started in 1999 with NATO membership. New concept should help avoid inefficiencies criticized by NATO. In 2001 new Minister received the task to create all-volunteer force. Plan for transition of Armed Forces with conscription into fully professional forces was created. The transformation of forces should start after approval of government from upcoming elections. This thesis

will concentrate on research in transition of conscription into volunteer forces especially from experience of Armed Forces of United States, Great Britain, and Belgium but also from France, Spain and Italy. Will discuss issues of common procedures, processes, problems and their managerial solutions in environment of the Czech Armed Forces.

KEYWORDS: Professionalization, All-Volunteer Force, Conscription, Transition, Reform, Recruitment